562-121-6506-A

EVALUATE A PHYSICAL CONDITIONING PROGRAM

TEC Lesson 562-121-6506-A

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FORT BENJAMIN HARRISON, INDIANA 46216-5590

STUDENT/SUPERVISOR INSTRUCTIONS, PRE-TEST/POST-TEST, AND ANSWER KEY ARE CONTAINED IN THIS BOOK

D 101.6/7:

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If you have questions or comments concerning this TEC Lesson, address them to:

Commander
U.S. Army Soldier Support Institute
ATTN: ATSG-DTC-E
Fort Benjamin Harrison, IN 46216-5590

READ THE STUDENT/SUPERVISOR INSTRUCTIONS CAREFULLY. BE SURE YOU UNDERSTAND THEM COMPLETELY BEFORE BEGINNING THE LESSON. PLEASE DO NOT WRITE IN THIS BOOK.

The words "he," "his," and "men," when used in this publication, represent both the masculine and feminine genders, unless otherwise specifically stated.

READEX FICHE best copy available

TYPE OF LESSON

- o Administration

AUDIENCE

- o MOS 03C, Physical Activities Specialist
- o Skill Level 1/2

TRAINING OBJECTIVES

Soldiers completing this lesson should be able to:

- o make an assessment of an individual's present strength/condition.
- o determine if the individual is complying with the Army's weight control standards.

MATERIAL/EQUIPMENT/PERSONNEL REQUIRED

- o Lesson materials: lesson book
- o Pen or pencil and paper

TIME REQUIRED

- o Individual:
- o Group:

REFERENCES:

- o STP 12-03C14-SM-T6 (Task 121-021-1415)
- o AR 600-9, The Army Weight Control Program
- o FM 21-20, Physical Fitness Training
- o DA PAM 350-18, Individual's Handbook on Physical Fitness

STUDENT/SUPERVISOR INSTRUCTIONS

STUDENT INSTRUCTIONS

- Prerequisites: Before taking this lesson, you should have successfully completed TEC lessons 562-121-6502-A and 562-121-6505-A.
- Take the Pretest/Posttest. If you pass, you do not have to take the lesson.
- Make sure you have the materials required to complete the lesson.
- Take the lesson. Use a separate sheet of paper and/or other appropriate materials for the exercises. Do not write in this book.
- When you complete the lesson, take the Pretest/Posttest again. If you do not pass, take the lesson again.

SUPERVISOR INSTRUCTIONS

- Make sure students have completed the prerequisites listed in the Student Instructions.
- Administer the Pretest/Posttest to determine the need for the lesson. Responses to test questions must be made on a separate sheet of paper, not in the lesson book. To pass the test, a soldier must answer 11 of the 13 test items correctly.
- Make sure students have the materials required to complete the lesson.
- Administer the lesson to students who do not pass the Pretest/Posttest. Remind them to write their responses to the exercises on a separate sheet of paper, and not in this book.
- Administer the Pretest/Posttest to students who complete the lesson. Students who do not pass must take the lesson again.

TEC LESSON 562-121-6506-A

EVALUATE A PHYSICAL CONDITIONING PROGRAM

This test consists of two situations that cover every training objective of the lesson. These situations have a total value of 14 points. When you have completed the test, check your answers against the Pretest/Posttest Answer Key on page 24. If you do not score at least nine points, you must take the lesson, or take it again if you have already taken it. Write your responses on a separate sheet of paper. Do not write in this book.

Situation 1:

You are working in the fitness facility at Ft. Atterbury where Major Bowman has asked to be reevaluated after three months on a physical conditioning program. He had his first assessment here, so the equipment needed is available.

	1ST ASSESSMENT	2ND ASSESSMENT	GOALS
Bench Press	145	180	175
Leg Press	210	350	320
2 Minute Sit-Up	48	60	63
Skinfold Measurement (4 site avg)	35mm(17.7%)	36mm (17.7%)	(15%)
Kraus Weber Floor Touch Test	YES	NO	Touch Floor
2-mile run	18:10	16:05	15:20
Age	37	--	--
Weight	154	160	155
Height	70	--	--

ARMY STANDARDS

	WEIGHT	% Of Body Fat
Male	189	24

37 years old

70 inches

PRETEST/POSTTEST

Answer the following questions concerning the reevaluation results.

1. List the area(s) that show either a decrease or no change from the first assessment

2. Describe the probable cause for the change in the toe touch.

3. a. What was MAJ Bowman's prior status according to the Army's weight control standards?

b. What is MAJ Bowman's current status according to the Army's weight control standards?

4. Looking at MAJ Bowman's goals, what exercises would you recommend when placing him in a maintenance program?

Situation 2:

MSG Christine Phillips is a very good runner and does well on the Army Physical Fitness Test, APFT. However, she is having difficulty on-the-job since she has been tasked with doing lifting and pulling type activities. She comes to you for help to gain strength in the upper body.

Following the initial assessment, you provide her with an exercise program to be done three times a week on an every-other-day schedule, and you tell her to increase the weight 5 to 10 pounds only when 12 or more repetitions can be done. You also recommend warm-up and cool-down exercises, to include stretching.

After three weeks she returns to you and shows her exercise log book.

	Week 1			Week 2		
	MON Weight/ Repetitions	WED	FRI	MON	WED	FRI
Seated Rowing	30/10	30/10	30/12	40/09	40/10	40/12
Lat Pulldown	50/09	50/10	50/12	60/10	60/11	60/10
Military Press	20/11	20/12	20/12	30/08	30/10	30/12
Bench Press	50/10	50/11	50/12	60/08	60/09	60/10
Bicep Curls	20/10	20/12	20/12	25/08	25/10	25/08
Tricep Extension	20/10	20/11	20/12	25/09	25/08	25/07

Week 3

	MON Weight/ Repetitions	WED	FRI
Seated Rowing	50/08	50/09	50/12
Lat Pulldown	60/10	60/08	60/07
Military Press	50/04	50/03	50/02
Bench Press	70/05	70/05	70/07
Bicep Curls	25/08	25/08	25/06
Tricep Extension	25/07	25/06	25/06

1. Look at the bench press. Did MSG Phillips follow your instructions on when to increase the weight to use? If not, what should she have done differently?

2. Look at the military press. Did MSG Phillips follow your instructions on weight increases? If not, what should she have done differently?

3. Look at the seated rowing exercise. Did MSG Phillips make the proper weight adjustments based on the repetitions she could perform? If not, what should she have done differently?

TEC LESSON

INTRODUCTION

As an 03C, you will not only have to develop and conduct a physical conditioning program, but you will also have to evaluate the progress of an individual. You must be prepared to evaluate a person's exercise program even though someone else had developed and conducted it. You must be able to look at any exercise log book, determine if there are any trends in progress, and make necessary changes to the program.

It is assumed that you have reviewed Develop and Conduct a Physical Conditioning Program, Parts I and II (TEC Lesson 562-121-6502-A and 562-121-6505-A) prior to taking this lesson. In this lesson you will be provided instruction on evaluating a physical conditioning program and on noting trends in an exercise log book. This lesson will contain Practice Exercises and a Self-Evaluation Exercise, both of which are intended to prepare you for taking or retaking the Pretest/Posttest.

EVALUATING A PHYSICAL CONDITIONING PROGRAM

The main purpose for evaluating a physical conditioning program is to determine if improvement is being made in any or all of the components of fitness. There are two basic methods to use:

1. Readminister the physical assessments used in determining the individual's fitness level prior to starting the program: and

2. Look through the individual's exercise log book to see trends in progress.

With each method your final action will be to make necessary changes to the program in order to maintain the present level, or to allow for improvement.

THE PHYSICAL ASSESSMENT

To determine the level and areas of improvement, you should have the individual perform the same physical exercises that were used to assess and develop his program. You should ensure that the individual does not exercise strenuously for two days prior to taking the test. This will provide better test results since the person will be better rested and have a lower chance for injury. When the person does come in for the test, allow him time to warm-up. This, too, will provide for better performance and lower his chances for injury.

The test should be given at approximately the same time of day the first assessment was given, and the sequence in which the events are performed should also be the same.

By way of example, suppose you had a 20 year old, female soldier retake the five tests shown below as part of physical reassessment procedure.

Results of first test	EVENT	Results of second test
39	2 minute Push-Up	44
50	2 minute Sit-Up	56
18:18	2-mile run	17.42
15 1/2 inches	Flexibility (Using the testing box)	15 inches
83mm	Total: Pinch Test Four Sites	70 mm

You can see that there has been improvement in all areas except flexibility.

EVALUATING

What you need to do is look at the length of time between assessments. Looking at the example, if there had been four weeks between tests you would say that there was good progress. But if there had been six months, you would need to ask the soldier if you could look at her exercise log book to see if there were any times when training was not conducted, and, if so, when, and for how long. Any such training lapses could have been the result of temporary duty, illness or hospitalization. You would also want to find out if certain exercises were omitted. In the example, hamstring stretches may not have been done. On the other hand, such a lack of progress might have resulted from the fact that the soldier was satisfied with a certain level of fitness and wanted to maintain that level, but no more than that.

In reviewing assessment scores, it is best to use a checklist to determine progress. Such a list should focus on the following:

- Length of time between assessments.
- Areas of improvement.
- Amount of improvement.
- Areas of no improvement, or decline.
- Reasons for no improvement, or decline.
- Review of individual's exercise log book.
- Review of individual's goals for the program.

TEC LESSON

ENCOURAGING

When evaluating an individual's fitness progress, you should always try to provide positive incentives. For example, some assessment results are translated into fitness ratings such as Superior, Good, or Fair depending on the raw score. This can present incentive problems. For example, if a soldier completed 33 push-ups and rated Fair in his first assessment, and improved his score to 37 push-ups on the next assessment, but still only qualifies for the Fair category, what can you do to provide positive reinforcement? The first thing you have to do is disregard the ratings, because you really do not want the person to compare his progress with others. You then need to impress upon the individual that even though there was only an improvement of four push-ups, it still represents progress. This little "pat on the back" may help the person to keep on with his program.

On the other hand, suppose that the soldier described above scored only 29 push-ups in the second assessment. By finding out what happened during his training program, you can provide a different but equally important sort of encouragement. For example, you may find that he had done push-ups every day, thus not allowing himself enough time for recovery, or that he had just gotten off a medical profile for a sore shoulder and had not been able to train for four weeks. If the latter were the case, he should not have been tested until he had had time to get back to steady training without having any soreness. In such a case, you would want to check with the medical personnel on how long it will take the person to regain his strength and be able to train without any risk of reinjury.

PRACTICE EXERCISE 1

SGM Smock was reassigned to your installation two months ago. Four months ago, he had a physical assessment at his previous installation. Details about that assessment include the following:

Bench Press	- 130 lbs	Age	- 38
Leg Press	- 230 lbs	Weight	- 170
2 minute sit-up	- 40 repetitions	Height	- 70 inches
2 mile run	- 18:30		
Toe touch	- 1 inch from touching the floor		

He asks if you would give him another assessment. You show him the equipment in the facility, and he tells you that it is the exact same type he had been tested with before. So you set up an appointment and instruct him on what he is to do prior to the assessment.

The results of his new assessment are:

Bench Press - 190 lbs
Leg Press - 230 lbs
2 minute sit-up - 45 repetitions
2 mile run - 17:30
Toe touch - 1 1/2 inches from the floor
Weight - 160 lbs

1. List the area that shows a decrease in performance and provide a possible explanation for it.

2. State two possible reasons for the Leg Press results.

SOLUTIONS TO PRACTICE EXERCISE 1

1. The toe touch shows a decrease of 1/2 inch. This could be due to the lack of stretching of the hamstring muscle groups; or the person may have spent more time trying to improve his run time.

2. Both tests show the same score of 230 lbs. Possible explanations for both tests showing up with the same score (230 lbs) could be:

   a. That is the limit at which he wants to stay.

   b. He may have found that if he lifted a heavier weight it affected his running times. You would need to check his exercise log.

   c. He may have noticed that lifting a heavier weight caused some discomfort in his knees.

   d. He may not have been able to lift the next plate because the increment was too great.

(The above answers are not intended to cover all the reasons for no improvement. They are intended to show you that you need to look at a lot of possible causes. Actually, the best way to find out the reason(s) for increases, or for decreases, in performance is to directly ask the person).

HEIGHT/WEIGHT TESTING

There may be times when soldiers will ask you to determine their status in relation to the Army weight control standards. When you measure them, you must say that your evaluation is only a close approximation and not an official measurement.

You will need to ask them their age and height in order to compare them to the right standards. A few tips to remember when you take the measurements:

1. Height should be measured early in the day. A person will get shorter as the day goes on. This is due to the compressing of the discs in the spine. If you want to test this for yourself, measure your height after you get out of bed and at the end of the day, and note the difference.

2. Weight should be measured on a scale that is properly calibrated. It should be done at the same time as height, early in the morning before breakfast. Weight can also fluctuate 2 to 4 pounds during the day. You may want to try this by weighing yourself several times during the day. For the best reading, a person should wear as little clothing as possible. Gym shirt and shorts are fine, but shoes should not be worn.

BODY COMPOSITION TESTING

If you find that the person is over the standards, you may have to do a body composition test. This could be done either by taking skinfold measurements or, possibly, girth measurements in accordance with AR 600-9. Again, you must say that your measurements are not official. This test is not as certain as stepping on a scale. When using skinfold calipers, different testers may not get the same or even close readings for the same body site. Variations may even be a problem when doing girth measurements.

These measurements should not be made after a person has exercised. This is because body areas may be enlarged making it more difficult to get an accurate reading.

Always try to encourage people to keep their weight under control so they do not have to go on crash diets or use other unhealthy methods to "make weight."

REVIEWING THE EXERCISE LOG

Another source of explanations for fitness assessments which show areas of no improvement, or which show declines in performance is the individual's exercise log. If it has been filled in properly, it will clearly show how the person has been training. It can tell the Frequency of the workouts, the Intensity of an exercise, the amount of Time spent on exercises (usually aerobic activities), and the Types of exercises performed. (Remember the FITT guidelines!)

Here are two examples of exercise logs.

1. SFC Jim Taylor
   7 Oct - 14 Oct

EXERCISE LOG
WEIGHT/REPETITIONS

		MON	WED	FRI	MON
1.	SQUAT	100/12	105/12	110/12	110/12
2.	LEG CURL	40/10	40/12	50/08	50/09
3.	LAT PULLDOWN	80/08	80/09	80/10	80/11
4.	MILITARY PRESS	50/09	50/09	50/10	50/11

		Weight/Repetitions			
5.	BENCH PRESS	100/10	100/12	105/10	105/11
6.	WRIST CURLS	5/08	5/10	5/10	5/12
RUN	DISTANCE	3 miles	3 miles	2 miles	3 miles
	TIME	24:10	24:00	15:30	23:30

2. SP4 Fred Turner
Four Week Workout (Beginning and End Results)

4-WEEK WORKOUT PROGRAM

NAME SP4 Fred Turner AGE 20

		Running Distance	Time	Flexibility Exercises	Strength Training	Other Activities
WK 1	SUN					Golf, 18 holes
	MON	2 mi	16:36	yes	yes	
	TUES					Tennis, 1 hr.
	WED	2 mi	16:20	yes	yes	
	THURS					Cycling, 10 mi.
	FRI	2 mi	16:00	yes	yes	

		Running Distance	Time	Flexibility Exercises	Strength Training	Other Activities
WK 2	SUN					Cycling, 5 mi.
	MON	2 mi	15:40	yes	yes	
	TUES					
	WED	2 mi	15:48	yes	yes	
	THURS					Racquetball, 1 hr.
	FRI	2 mi	15:30	yes	yes	

Look at Example 1. Notice that both strength training and running are conducted on an every-other-day basis. This is in line with the principles of exercise, and provides for balanced development and muscle recovery during training. Note also that there is no way of telling if flexibility exercises were being performed, so you would want to ask the person.

You should examine each exercise on a day to day basis to see if there are increases in either weight or repetitions. When there is no increase, you start to ask the question, "why?" If the person is using a weight machine, perhaps the increment in the weight plate is too great and the person is unable to use that next weight. (Note: A new weight level of 5 to 10 pounds should permit a person to perform between 8 and 12 repetitions.) Again, another reason may be that the person has reached his goal and just wants to maintain that level, such as in the squat.

Example 2 concentrates mainly on aerobic activities. Notice, however, that yes or no in the flexibility and muscular exercise columns does not tell you much about progress achieved, so, once again, you would want to ask the person about such matters.

The point is that the more information that can be provided in the log, the easier it will be for you to evaluate an individual's conditioning program.

PRACTICE EXERCISE 2

SP 4 Jones wants to improve his push-up score for next month's APFT. So he decides to work the muscle groups used for push-ups. He shows you his exercise log and asks you to evaluate his progress.

	MON	TUE	WED	THUR	FRI	SAT	SUN	
	Weight/ Repetitions							
Bench Press	140/12	140/8	140/8	140/7	140/6	--	--	AM
	145/11	140/8	140/7	--	140/5	--	--	PM
Push-ups	45	37	35	35	30	--	--	AM
	40	35	32	30	28	--	--	PM
Tricep Extensions	45/10	40/8	35/10	35/8	35/7	--	--	AM
	45/6	40/7	35/8	--	30/7	--	--	PM

1. Determine the trend of training (improvement, leveling off, decline).

2. Determine the probable cause of the trend for item 1.

TEC LESSON

SOLUTIONS TO PRACTICE EXERCISE 2

1. Decline in performance. The weight or the repetitions for the exercises were less on Friday than on Monday.

2. SP4 Jones is not allowing any time for his muscles to recover between workouts. Not only is he doing these strength exercises twice a day, but he is also doing them five days in a row. A minimum frequency of three times per week should be sufficient.

ADJUSTING THE PROGRAM

Now that you have determined the trend in the program, your next step will be to decide if any changes need to be made. You will need to determine whether the exercises being performed are providing the desired improvement.

An individual's program should be adjusted as necessary to accomplish his goals, but it should also be adjusted in reference to the FITT guidelines and to the seven Principles of Exercise outlined in FM 21-20.

Once this has been done you will need to determine if the individual should continue in a conditioning phase, or if he should be placed on a maintenance program. Obviously, this will depend upon the person's goals at the start of the program. If the goals are met, the individual must then decide if he wants to continue to improve, or merely stay at the present level. He may decide to maintain the level of certain exercises and to improve in others. If the goals are not met, it must be decided if the goals were too high at the beginning, or if a change of exercises is needed to reduce boredom or to surpass a plateau in training.

As an example, suppose that a person had been doing the same workout for four months. Improvement was shown during the first two months. His beginning progress showed that he could meet his goals, but lately he has lost his desire to train.

A change to exercises (variety) which worked the same muscle groups could relieve boredom and prevent his muscles from adapting to the same kind of work.

PRACTICE EXERCISE 3

Refer to SP4 Jones's exercise log in Practice Exercise 2.

1. According to the FITT principle and the seven exercise guidelines, state two major adjustments that should be made to his training program.

2. Determine if the program provides balance among muscle groups. If not, what body area(s) would need to be exercised?

SOLUTIONS TO PRACTICE EXERCISE 3

1.a. He should stop doing twice a day workouts and he should exercise as close to the time of day of the APFT as possible.

b. The workouts should be done every other day to allow for adequate muscle recovery. The quality of the workout is more important than the quantity.

2. There is no balance. At least one exercise for the back and one for the biceps should be performed.

SUMMARY

There are many different ways you can adjust a person's training program. You need to remember the FITT principle and the seven exercise guidelines when making any changes.

When evaluating a person's training program, it is important to remember that it is someone else's program, and that it is based on that person's goals-not on what you think they should be. This does not mean, however, that you cannot make suggestions for a better program. Some may need a longer recovery time between sessions, while others can perform different activities every day. Based on his responses, a person's goals may need to be changed, or a program may need to be changed from conditioning to maintenance.

Exercise 1.

SSG Simms was placed on a physical conditioning program two months ago. He feels that he is making progress and wants to be reevaluated to see how much more he has to go until he reaches his goals.

	1st Assessment	Goals	2nd Assessment
Bench Press	140	191	165
Leg Press	283	360	370
1 minute sit-up	22	35	33
Sum of four skinfold measurements	65mm (24.3%Body Fat)	55mm (22.5%Body Fat)	60mm (23.5%Body Fat)
Flexibility (yardstick)	13	19	13
2 mile run	17:06	16:00	16:30
Age	33		
Weight	210	200	210
Height	72		

Army Standards	MAXIMUM ALLOWABLE	
Male	Weight	% Body Fat(BF)
33 years old	205	24
72 inches		

a. List the areas that show either a decrease or no change from the first assessment.

b. What could be the possible cause of the slow progress in the 2 mile run?

c. What is SSG Simms' status in regards to the Army's weight control standards? Before and now?

SELF-EVALUATION EXERCISE

Exercise 2.

CPT Florence Welch designed her own fitness program hoping to improve her time for the 2-mile run and to improve her overall body tone. She is 23 years old, 122 lbs, 5'4" tall, and her best time for the 2-mile run is 17:35.

Her exercise log for one month is shown on pages 19 - 22. She warms up with walking, followed by stretching for the major muscle groups with each stretch held for 15 seconds.

She cools down by walking for about 3 minutes, followed by flexibility exercises held for 30 seconds each.

Refer to her exercise log, shown on pages 19 - 22, and answer the following questions.

a. Determine the trend in her running performance (improvement, leveling off, decline).

b. Determine the probable causes of the trend in item a.

c. Looking at the exercise log, does she follow a balanced weight training program?

d. What adjustment to her training for running would you make for week one?

e. What adjustment to the running program would you make in week two?

f. In week three, what adjustment to the running program would you make?

SELF-EVALUATION EXERCISE

Week 1.

	MON	TUE	WED	THUR	FRI	SAT	SUN
	Run	Bike	Swim	Run	Bike	Swim	Walk
Aerobic	3miles	10miles	1/2mile	2miles	10miles	3/4mile	3 miles
activity	30mins			20mins			
Leg press	150/10		150/10		150/10		
Leg extension	30/10		30/10		30/11		
Leg curl	20/10		20/10		20/11		
Heel raise	40/10		40/10		40/11		
Seated Rowing	40/10		40/10		40/10		
Military press	30/10		30/10		30/10		
Bench press	60/10		60/10		60/10		
Biceps curls	15/10		15/10		15/10		
Tricep extensions	15/10		15/10		15/10		
Curl-ups	25 reps		25 reps		25 reps		

SELF-EVALUATION EXERCISE

Week 2.

	MON	TUE	WED	THUR	FRI	SAT	SUN
	Run	Bike	Swim	Bike	Run	Swim	Walk
Aerobic	3miles	10miles	1/2mile	10miles	2miles	1/2mile	1 mile
activity	28mins				19mins		
Leg press	150/12		160/9		160/11		
Leg extension	30/12		40/9		40/10		
Leg curl	20/12		30/8		30/9		
Heel raise	40/12		50/9		50/9		
Seated Rowing	40/10		40/10		40/11		
Military press	30/11		30/11		30/11		
Bench press	60/12		70/9		70/10		
Biceps curls	15/12		15/12		15/12		
Tricep extensions	15/11		15/10		15/10		
Curl-ups	27 reps		28 reps		29 reps		

Week 3.

	MON	TUE	WED	THUR	FRI	SAT	SUN
	Run	Run	Bike	Swim	Run	Run	Swim
Aerobic	4miles	3miles	15miles	3/4mile	4miles	3miles	3/4miles
activity	50mins	40mins			52mins	42mins	
Leg press	160/11	160/11	160/9	160/8	150/8		
Leg extension	40/11	40/10	40/9	40/8	30/7		
Leg curl	30/8	30/8	20/10	20/9	20/8		
Heel raise	50/11	50/11	50/11	50/9	50/9		
Seated Rowing	40/11	40/11	40/11	40/9	40/8		
Military press	30/12	40/9	40/7	30/10	30/8		
Bench press	70/11	70/11	70/9	70/8	70/8		
Biceps curls	20/9	20/9	20/8	20/7	15/10		
Tricep extensions	15/12	15/11	15/10	15/9	15/8		
Curl-ups	30 reps	30 reps	27 reps	25 reps	25 reps		

SELF-EVALUATION EXERCISE

Week 4.

	MON	TUE	WED	THUR	FRI	SAT	SUN
	Run	Bike	Swim	Bike	Run	Swim	Walk
Aerobic	2miles	4miles	1/2mile	2Miles	1-1/2miles	1mile	3miles
activity	28mins				21mins		
Leg press	150/8		150/10		150/10		
Leg extension	30/9		30/10		30/10		
Leg curl	20/9		20/10		20/11		
Heel raise	50/9		50/10		50/10		
Seated Rowing	40/9		40/10		40/10		
Military press	30/9		30/10		30/10		
Bench press	70/8		70/10		70/10		
Biceps curls	15/10		15/12		15/12		
Tricep extensions	15/9		15/10		15/10		
Curl-ups	27 reps		30 reps		30 reps		

ANSWERS TO SELF-EVALUATION EXERCISE

Exercise 1.

a. Skinfolds decreased, but that is a good sign-that body fat is going down. Flexibility - no change. Weight - no change.

b. The heavy emphasis on the leg press could be the cause; but you also would have to look at the running program for some possible reasons.

c. SSG Simms was over the Army's maximum limits in both weight and percent body fat. Now, even though he is still overweight, he is all right in terms of body fat and would not need to be on a weight control program. (Remember, this is an unofficial measurement.)

Situation 2.

a. Declining: from 10 minute miles in week 1, to 14 minutes by the end of week 4.

b. She was not running enough in weeks 1, 2 and 4, and was running too long and too often in week 3, which did not provide her muscles with sufficient time for recovery.

c. Yes, in the sense that she performs 10 of the 12 recommended weight training exercises, correctly moving from large muscles to small muscle areas. In week 3, however, she overloads her muscles by increasing the frequency to five days in a row. Every other day at a minimum of three days per week would be a much better routine.

d. She should switch Thursday's run to Wednesday and add a run of at least 2 miles on Friday (or run instead of swim on Saturday).

e. She should run instead of swim on Wednesday to provide a balanced program, e.g., every other day for a minimum of three days per week.

f. Either have her run on Monday, Wednesday and Friday, or on Tuesday, Wednesday and Saturday. The times may improve because of allowing more rest. Her running strength was obviously reduced by the excessive amount of weight training she engaged in during week three.

PRETEST/POSTTEST ANSWER KEY

Each part of an answer has a value of one point. The total possible score is 13 points. A passing score is 11 points or more.

Situation 1.

1. a. Skinfold measurement - no percent change in body fat.

   b. Toe touch - decrease.

   c. 2-mile run time-decrease.

2. Major Bowman probably had not done enough stretching exercises.

3. a. OK

   b. OK

4. (2 points allowable if answer includes at least two of the following recommendations.)

   o Performance of the twelve basic exercises for exercising all of the muscle areas: large muscles (buttocks/lower back) through small muscles (abdominals).

   o Plus, performance of flexibility exercises.

   o Plus, performance of aerobic/cardiorespiratory exercises such as swimming, biking, running, walking, etc.

Situation 2.

1. a. No.

   b. In week three she should have continued with the 60 lb. weight until she accomplished the 12 repetitions that were recommended before going to the next (70 lb.) weight series.

2. a. No.

   b. In week three she only should have increased her weight series by 10 lbs., and she should not have moved to the 50 lb. series until she had accomplished 12 repetitions at the 40 lb. level.

3. a. Yes.

   b. Not applicable.

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